UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,943	12/06/2000	Hideo Yahagi	108066	6925

7590 07/14/2006

Oliff & Berridge PLC
P. O. Box 19928
Alexandria, VA 22320

EXAMINER	
DUONG, THANH P	
ART UNIT	**PAPER NUMBER**
1764	

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/729,943	YAHAGI, HIDEO	
	Examiner	Art Unit	
	Tom P. Duong	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 7-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 7-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 7, 2006 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-2 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foster (5,857,140) in view of JP 10-231722 . Regarding claims 1-2, 7, 9, and 10, Foster discloses an exhaust emission control system comprising: an internal combustion engine (see, for example, col. 1, lines 1-2; col. 4, lines 38-39); an exhaust gas purifying catalyst provided in an exhaust passageway of said internal combustion engine; the catalyst including: a box body 12 formed with an exhaust gas inlet and an outlet; a catalyst support 18 incorporated into said box body; and a catalyst substance supported on said catalyst support 18, said catalyst substance forming a region through

which exhaust gasses pass, wherein: the catalyst substance includes a notched portion (see, for example, col. 2, lines 38-45,. col. 4, lines 8-61., col. 8, lines 20-30) that is recessed from the exhaust inflow surface of the catalyst substance. Foster fails to disclose a high-density portion disposed within the catalyst substance and downstream in an exhaust gas flow direction from the notched portion. JP 10-231722 teaches it is conventional to provide a center catalyst 4 with a fine cell density portion or high density portion than catalyst substance 3. The high-density portion provides an exhaust gas purifying catalyst with a rapid catalytic activity at early stage or during start up. Thus, it would have been obvious in view of JP 10-231722 to one having ordinary skill in the art to modify the apparatus of Foster with a high-density portion as taught by JP 10-231722 in the notched portion of Foster to increase the catalytic activity at an early state or during start-up. Regarding claims 8 and 10, the shape of the end face of the catalyst substrate (shape of the notched portion) is not considered to confer patentability to the claim. It would have been an obvious matter of design choice to select an appropriate shape for the end face of the catalyst substrate/shape of the notched portion, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

2. Claims 1-2 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 07-232082 in view of JP 10-231722. Regarding claims 1-2, 7, 9, and 10,

JP 07-232082 discloses an exhaust emission control system comprising: an internal combustion engine; an exhaust gas purifying catalyst provided in an exhaust passageway of said internal combustion engine; the catalyst including: a box body 30 formed with an exhaust gas inlet and an outlet; a catalyst support 10 incorporated into said box body; and a catalyst substance supported on said catalyst support 10, said catalyst substance forming a region through which exhaust gasses pass, wherein: the catalyst substance includes a notched portion (12) that is recessed from the exhaust inflow surface of the catalyst substance. JP 07-232082 fails to disclose a high-density portion disposed within the catalyst substance and downstream in an exhaust gas flow direction from the notched portion. JP 10-231722 teaches it is conventional to provide a center catalyst 4 with a fine cell density portion or high-density portion than catalyst substance 3. The high-density portion provides an exhaust gas purifying catalyst with a rapid catalytic activity at early stage or during start up. Thus, it would have been obvious in view of JP 10-231722 to one having ordinary skill in the art to modify the apparatus of JP 07-232082 with a high-density portion as taught by JP 10-231722 in the notched portion of JP 07-232082 to increase the catalytic activity at an early state or during start-up. Regarding claims 8 and 10, the shape of the end face of the catalyst substrate (shape of the notched portion) is not considered to confer patentability to the claim. It would have been an obvious matter of design choice to select an appropriate shape for the end face of the catalyst substrate/shape of the notched portion, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the

art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

3. Claims 1-2 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 1-119820 in view of JP 10-231722. Regarding claims 1-2, 7, 9, and 10, JP 1-119820 discloses an exhaust emission control system comprising: an internal combustion engine; an exhaust gas purifying catalyst provided in an exhaust passageway of said internal combustion engine; the catalyst including: a box body 8 formed with an exhaust gas inlet and an outlet; a catalyst support 1 incorporated into said box body; and a catalyst substance supported on said catalyst support 1, said catalyst substance forming a region through which exhaust gasses pass, wherein: the catalyst substance includes a notched portion (2) that is recessed from the exhaust inflow surface of the catalyst substance. JP 1-119820 fails to disclose a high-density portion disposed within the catalyst substance and downstream in an exhaust gas flow direction from the notched portion. JP 10-231722 teaches it is conventional to provide a center catalyst 4 with a fine cell density portion or high-density portion than catalyst substance 3. The high-density portion provides an exhaust gas purifying catalyst with a rapid catalytic activity at early stage or during start up. Thus, it would have been obvious in view of JP 10-231722 to one having ordinary skill in the art to modify the apparatus of JP 1-119820 with a high-density portion as taught by JP 10-231722 in the notched portion of JP 1-119820 to increase the catalytic activity at an early state or during start-up. Regarding claims 8 and 10, the shape of the end face of the catalyst

substrate (shape of the notched portion) is not considered to confer patentability to the claim. It would have been an obvious matter of design choice to select an appropriate shape for the end face of the catalyst substrate/shape of the notched portion, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

4. Claims 1-2 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-66610 in view of JP 10-231722. Regarding claims 1-2, 7, 9, and 10, JP 61-66610 discloses an exhaust emission control system comprising: an internal combustion engine; an exhaust gas purifying catalyst provided in an exhaust passageway of said internal combustion engine; the catalyst including: a box body 1a formed with an exhaust gas inlet and an outlet; a catalyst support 2 incorporated into said box body; and a catalyst substance supported on said catalyst support 2, said catalyst substance forming a region through which exhaust gasses pass, wherein: the catalyst substance includes a notched portion (5) that is recessed from the exhaust inflow surface of the catalyst substance. JP 61-66610 fails to disclose a high-density portion disposed within the catalyst substance and downstream in an exhaust gas flow direction from the notched portion. JP 10-231722 teaches it is conventional to provide a center catalyst 4 with a fine cell density portion or high-density portion than catalyst substance 3. The high-density portion provides an exhaust gas purifying catalyst with a

rapid catalytic activity at early stage or during start up. Thus, it would have been obvious in view of JP 10-231722 to one having ordinary skill in the art to modify the apparatus of JP 61-66610 with a high-density portion as taught by JP 10-231722 in the notched portion of JP 61-66610 to increase the catalytic activity at an early state or during start-up. Regarding claims 8 and 10, the shape of the end face of the catalyst substrate (shape of the notched portion) is not considered to confer patentability to the claim. It would have been an obvious matter of design choice to select an appropriate shape for the end face of the catalyst substrate/shape of the notched portion, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Response to Arguments

Applicant's arguments with respect to claims 1-2 and 7-10 have been considered but are moot in view of the new ground(s) of rejection. JP 10-231722 discloses a fine cell density portion or high density portion (4) in the catalyst substance 3. It appears applicant attempts to suggest that "the notch portion of the catalyst support may support a greater quantity of catalyst substance or has a higher catalyst density than the other areas; however, such features is not recited in the claimed language.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Duong
July 10, 2006
TP

Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700